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EXAMINER	
DAVIS, CYNTHIA L	
ART UNIT	**PAPER NUMBER**
2665	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/994,260	ARVELO, ELADIO C.	
	Examiner	Art Unit	
	Cynthia L. Davis	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/10/05*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21 and 23-25* is/are rejected.

7)☒ Claim(s) *22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 11/10/2005 have been fully considered but they are not persuasive. The amendments to claims 1, 16, and 25 add the language "by using power control that is capable of being open loop or capable of being closed loop." This limitation is still in the alternative, and reads on any system that is capable of being open loop only or capable of being closed loop only. In the arguments section, applicant argues that the amendments change the term "or" to "and", but this is not reflected in the listing of the claims as amended.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 2, 3, 4, 11, 16, 17, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Sawahashi.

Regarding claim 1, Chang discloses a method comprising increasing a power level of a wireless transmission (figure 3, element 308a) if a number of frame errors in a short observation window (reporting period, column 4, lines 13-16) exceeds a first threshold (column 4, lines 32-37, also, "target," figure 3, element 306). Chang also discloses decreasing the power level of the wireless transmission (figure 3, element 308b) if a number of frame errors in a long observation window (reporting period, column 4, lines 13-16) falls below a second threshold (column 4, lines 37-39, also "target," figure 3, element 306). Increasing or decreasing the power level of the

transmission using power control that is capable of being open loop or capable of being closed loop is missing from Chang. However, this is disclosed in Sawahashi, column 4, lines 2-6. It would have been obvious to one skilled in the art at the time of the invention to use the open/closed loop power control structure of Sawashi in conjunction with the frame error counting method of Chang. The motivation would be to achieve quick reduction in the power to avoid interference with other mobiles when necessary (see Sawahashi, column 4, lines 4-8). Said open loop power control enabling a transmitter to unilaterally modify the power is missing from Chang. This disclosed in Sawahashi, column 4, lines 15-24. It would have been obvious to one skilled in the art at the time of the invention to allow the mobile to unilaterally modify its transmit power using the packet error counting method of Chang. The motivation would be to achieve quick reduction in the power to avoid interference with other mobiles when necessary (see Sawahashi, column 4, lines 4-8). Modifying the power based on packet errors is disclosed in Chang, figure 3, element 308a, column 4, lines 13-16, and column 4, lines 32-37.

Regarding claim 16, see the above rejection for claim 1. Chang further discloses a counter to count frame errors in a wireless transmission at column 4, line 21 ("number of errors detected," a counter is necessarily implied). Counting a number of frame errors in a short observation window is disclosed in column 4, lines 13-16 ("reporting period"). Counting a number of frame errors in a long observation window is disclosed in column 4, lines 13-16 ("reporting period"). A comparator to compare the number of frame errors in the short observation window to a first threshold and to compare the

number of packet errors in the long observation window to the second threshold is disclosed in figure 3, element 306, and column 4, lines 32-35. A controller to increase a power level of the wireless transmission if the number of packets in the short observation window exceeds the first threshold is disclosed in figure 3, element 308a. A controller to decrease the power level of a wireless transmission if the number of packet errors in the long observation window falls below the second threshold is disclosed in figure 3, element 308b. Increasing or decreasing the power level of the transmission using power control that is capable of being open loop or capable of being closed loop is missing from Chang. However, this is disclosed in Sawahashi, column 4, lines 2-6. It would have been obvious to one skilled in the art at the time of the invention to use the open/closed loop power control structure of Sawashi in conjunction with the frame error counting method of Chang. The motivation would be to achieve quick reduction in the power to avoid interference with other mobiles when necessary (see Sawahashi, column 4, lines 4-8). Said open loop power control enabling a transmitter to unilaterally modify the power is missing from Chang. This disclosed in Sawahashi, column 4, lines 15-24. It would have been obvious to one skilled in the art at the time of the invention to allow the mobile to unilaterally modify its transmit power using the packet error counting method of Chang. The motivation would be to achieve quick reduction in the power to avoid interference with other mobiles when necessary (see Sawahashi, column 4, lines 4-8). Modifying the power based on packet errors is disclosed in Chang, figure 3, element 308a, column 4, lines 13-16, and column 4, lines 32-37.

Regarding claim 2, Chang discloses increasing the power level of the wireless transmission (figure 3, element 308a) if the number of frame errors in the long observation window (reporting period, column 4, lines 13-16) exceeds a third threshold (column 4, lines 32-37, also, "target," figure 3, element 306).

Regarding claim 3, Chang discloses counting the number of frame errors (column 4, lines 8-12) during the short observation window (reporting period, column 4, lines 13-16) and comparing the number of packet errors during the short observation window to the first threshold (column 4, lines 32-34, also, "target," figure 3, element 306).

Regarding claim 4, Chang discloses counting the number of frame errors (column 4, lines 8-12) in the long observation window (reporting period, column 4, lines 13-16) and comparing the number of packet errors during the long observation window to the second threshold (column 4, lines 32-34, also, "target," figure 3, element 306).

Regarding claim 11, Chang discloses in column 3, line 53, a 1 percent frame error rate.

Regarding claim 17, see the above rejection of claim 2. The comparator further comparing the number of packet errors in the long observation window to a third threshold is disclosed in column 4, lines 32-35 of Chang. The controller increasing the power level of the wireless transmission if the number of errors in the long observation window exceeds a third threshold is disclosed in figure 3, element 308a.

Regarding claim 24, Chang discloses a packet counter to count a number of packets in the wireless transmission (column 4, lines 19-20) and provide the number of

packets to the controller, said controller to decrease the power level of the wireless transmission (figure 3, element 308b) based on the long observation window only after the number of packets fills the long observation window (column 4, lines 28-29, "the transmitter receives a link quality measure for the previous reporting period" implies that the measurement is given after the reporting period has elapsed, i.e. after the long observation window is filled).

3. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Sawahashi in further view of Uhlik (6760599). Chang discloses a method comprising increasing a power level of a wireless transmission (figure 3, element 308a) if a number of packet errors in a short observation window (column 4, lines 13-16) exceeds a first threshold (column 4, lines 32-37). Chang also discloses decreasing the power level of the wireless transmission (figure 3, element 308b) if a number of errors in a long observation window (column 4, lines 13-16) falls below a second threshold (column 4, lines 37-39). Increasing or decreasing the power level of the transmission using power control that is capable of being open loop or capable of being closed loop is missing from Chang. However, this is disclosed in Sawahashi, column 4, lines 2-6. It would have been obvious to one skilled in the art at the time of the invention to use the open/closed loop power control structure of Sawashi in conjunction with the frame error counting method of Chang. The motivation would be to achieve quick reduction in the power to avoid interference with other mobiles when necessary (see Sawahashi, column 4, lines 4-8). Said open loop power control enabling a transmitter to unilaterally modify the power is missing from Chang. This disclosed in Sawahashi, column 4, lines

15-24. It would have been obvious to one skilled in the art at the time of the invention to allow the mobile to unilaterally modify its transmit power using the packet error counting method of Chang. The motivation would be to achieve quick reduction in the power to avoid interference with other mobiles when necessary (see Sawahashi, column 4, lines 4-8). Modifying the power based on packet errors is disclosed in Chang, figure 3, element 308a, column 4, lines 13-16, and column 4, lines 32-37. Claim 25 further discloses a machine readable medium having stored thereon machine readable instructions to implement this method, which is missing from Chang. However, using such a machine readable medium and machine readable instructions to carry out a similar method is disclosed in Uhlik at column 19, lines 12-27. It would have been obvious to one skilled in the art at the time of the invention to store instructions for this method on a machine readable medium. The motivation would be to have a computer carry out the steps of the claimed method.

4. Claims 5-9 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Sawahashi in further view of Van Heeswyk (6765883) and Honkanen (6765883).

Regarding claim 5, open loop power control, and uses CRC's and NACK's to count the packet errors, are missing from Chang. However, increasing and/or decreasing the power level comprising an open loop power control method is disclosed in Van Heeswyk at column 9, lines 33-39. Receiving a plurality of packets comprising the wireless transmission from a remote source and performing a CRC on each of the plurality of packets is disclosed as part of the Bluetooth standard in the specification on

page 9, lines 15-16. Sending a NACK message to the remote source for each CRC failure is disclosed as part of the Bluetooth standard in the specification on page 9, line 16 thru page 10, line 1. The remote source counting the NACK messages corresponding to the number of packet errors in the short observation window and a number of packet errors in the long observation window is disclosed in Chang in column 4, lines 19-20. The remote source increasing and/or decreasing the power level accordingly is disclosed in Van Heeswyk at column 9, lines 38-39. Monitoring error rates in a Bluetooth wireless system is disclosed in Honkanen at column 1, lines 8-12, and column 6, lines 39-43. In view of this disclosure, it would have been obvious to one skilled in the art at the time of the invention to use the method of open loop power control of Van Heeswyk based on error rates as is disclosed in Chang in a Bluetooth-type system. The motivation would be to implement power control adaptively at the rate at which conditions change at the mobile (see Van Heeswyk, column 10, lines 35-39), and to have the system operating on the standardized, recognized Bluetooth protocol.

Regarding claim 6, the method of claim 1 is disclosed in Chang. Claim 6 further discloses open loop power control, and using CRC's and NACK's to count the packet errors, which is missing from Chang. However, increasing and/or decreasing the power level comprising an open loop power control method is disclosed in Van Heeswyk at column 9, lines 33-39. Sending a plurality of packets comprising the wireless transmission to a remote source and performing a CRC on each of the plurality of packets is disclosed as part of the Bluetooth standard in the specification on page 9, lines 15-16. Receiving a NACK message to the remote source for each CRC failure is

disclosed as part of the Bluetooth standard in the specification on page 9, line 16 thru page 10, line 1. Chang discloses counting the NACK messages corresponding to the number of packet errors in the short observation window (column 4, lines 13-16) and increasing the power level accordingly (figure 3, element 308a). Chang also discloses counting the NACK messages corresponding to the number of packet errors in the long observation window (column 4, lines 13-16) and decreasing the power level accordingly (figure 3, element 308b). Monitoring error rates in a Bluetooth wireless system is disclosed in Honkanen at column 1, lines 8-12, and column 6, lines 39-43. In view of this disclosure, it would have been obvious to one skilled in the art at the time of the invention to use the claimed method of open loop power control using error rates in a Bluetooth-type system. The motivation would be to allow the transmitter to control its transmission power and to have the system operate in the standardized, recognized Bluetooth protocol.

Regarding claim 7, the method of claim 1 is disclosed in Chang. Claim 7 further discloses closed loop power control, and using CRC's and NACK's to count the packet errors, which is missing from Chang. However, increasing and/or decreasing the power level comprising a closed loop power control method is disclosed in Van Heeswyk at column 9, lines 40-52. Receiving a plurality of packets comprising the wireless transmission from a remote source and performing a CRC on each of the plurality of packets is disclosed as part of the Bluetooth standard in the specification on page 9, lines 15-16. Counting the CRC failures in the short observation window (column 4, lines 13-16) and a long observation window (column 4, lines 13-16) is disclosed in Chang.

Sending an instruction to the remote source to increase or decrease the power levels accordingly is disclosed in Van Heeswyk at column 9, lines 43-47. Monitoring error rates in a Bluetooth wireless system is disclosed in Honkanen at column 1, lines 8-12, and column 6, lines 39-43. In view of this disclosure, it would have been obvious to one skilled in the art at the time of the invention to use the claimed method of closed loop power control using error rates in a Bluetooth-type system. The motivation would be to allow the transmitter to control the transmission power of the remote sources, and to have the method use the standardized, recognized Bluetooth protocol.

Claim 8 further limit the method of claim 7 by sending the instruction to the remote source to increase the power level if the number of CRC failures in the long observation window exceeds a third threshold. Chang discloses increasing the power level of the wireless transmission (figure 3, element 308a) if the number of packet errors in the long observation window (column 4, lines 13-16) exceeds a third threshold (column 4, lines 32-37). In view of this disclosure, it would have been obvious to one skilled in the art to use a third threshold. The motivation would be to fine-tune the power control of the system.

Regarding claim 18, the methods of claim 16 is disclosed in Chang. Claim 18 further discloses open loop power control, and using CRC's and NACK's to count the packet errors, which is missing from Chang. However, increasing and/or decreasing the power level comprising an open loop power control method is disclosed in Van Heeswyk at column 9, lines 33-39. Sending a plurality of packets comprising the wireless transmission to a remote source and performing a CRC on each of the plurality

of packets is disclosed as part of the Bluetooth standard in the specification on page 9, lines 15-16. Receiving a NACK message to the remote source for each CRC failure is disclosed as part of the Bluetooth standard in the specification on page 9, line 16 thru page 10, line 1. Chang discloses counting the NACK messages corresponding to the number of packet errors in the short observation window (column 4, lines 13-16) and increasing the power level accordingly (figure 3, element 308a). Chang also discloses counting the NACK messages corresponding to the number of packet errors in the long observation window (column 4, lines 13-16) and decreasing the power level accordingly (figure 3, element 308b). Monitoring error rates in a Bluetooth wireless system is disclosed in Honkanen at column 1, lines 8-12, and column 6, lines 39-43. In view of this disclosure, it would have been obvious to one skilled in the art at the time of the invention to use the claimed method of open loop power control using error rates in a Bluetooth-type system. The motivation would be to allow the transmitter to control its transmission power and to have the system operate in the standardized, recognized Bluetooth protocol.

Regarding claim 19, the method of claim 16 is disclosed in Chang. Claim 19 further discloses closed loop power control, and using CRC's and NACK's to count the packet errors, which is missing from Chang. However, increasing and/or decreasing the power level comprising a closed loop power control method is disclosed in Van Heeswyk at column 9, lines 40-52. Receiving a plurality of packets comprising the wireless transmission from a remote source and performing a CRC on each of the plurality of packets is disclosed as part of the Bluetooth standard in the specification on

page 9, lines 15-16. Counting the CRC failures in the short observation window (column 4, lines 13-16) and a long observation window (column 4, lines 13-16) is disclosed in Chang. Sending an instruction to the remote source to increase or decrease the power levels accordingly is disclosed in Van Heeswyk at column 9, lines 43-47. Monitoring error rates in a Bluetooth wireless system is disclosed in Honkanen at column 1, lines 8-12, and column 6, lines 39-43. In view of this disclosure, it would have been obvious to one skilled in the art at the time of the invention to use the claimed method of closed loop power control using error rates in a Bluetooth-type system. The motivation would be to allow the transmitter to control the transmission power of the remote sources, and to have the method use the standardized, recognized Bluetooth protocol.

Claim 20 further limits the methods of claims 7 and 19 by sending the instruction to the remote source to increase the power level if the number of CRC failures in the long observation window exceeds a third threshold. Chang discloses increasing the power level of the wireless transmission (figure 3, element 308a) if the number of packet errors in the long observation window (column 4, lines 13-16) exceeds a third threshold (column 4, lines 32-37). In view of this disclosure, it would have been obvious to one skilled in the art to use a third threshold. The motivation would be to fine-tune the power control of the system.

Claims 9 and 21 further limit the methods of claims 7 and 19 by sending LMP instructions to increase and decrease the power level, which is missing from Chang. However, in the instant specification at page 10, lines 6-7, LMP instructions are

disclosed to be part of the Bluetooth specification, and as being commonly used for RSSI-based loop power control. In view of this disclosure, it would have been obvious to one skilled in the art to send LMP instructions to increase or decrease the power. The motivation would be to implement the claimed method in a Bluetooth-type network.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Sawahashi in further view of Tabet (5983183). The method of claim 1 is disclosed in Chang. Claim 10 further discloses a wireless transmission generated by a transmitter located in close proximity to a receiver, said receiver to simultaneously receive a second wireless transmission, said first wireless transmission to create an interference signal in the second wireless transmission in proportion to the power level of the first wireless transmission. It is obvious that some sort of interference will occur in a wireless transmission. Increasing and/or decreasing the power level comprising maintaining a target average packet error rate using a lowest average power level of the first wireless transmission is disclosed in Tabet in figure3, element 208. The lowest average power level is an indicator of the line noise level, which is also an indicator of the average packet error rate. Since the lowest average power level and the average packet error rate are related in this way, it makes sense to use the readings of one to control the other. It would have been obvious to one skilled in the art at the time of the invention to use the lowest average power level to maintain a target packet error rate. The motivation would be to use the power readings to modulate the link quality.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Sawahashi in further view Tiedemann (5604730). The method of claim 1 is

disclosed in Chang. Claim 12 further discloses a 30dB range for the wireless transmission, which is missing from Chang. However, there is no basis given in the specification for the choice of a 30dB limitation. It is generally considered to be within the ordinary skill in the art to adjust, vary, select of optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on Applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937), Marconi Wireless Telegraph Co. v. US, 320 U.S.1, 57 USPQ 471 (1943). Claim 12 also discloses 2dB steps for adjusting the power level, which is missing from Chang. However, Tiedemann discloses adjusting the power level of a wireless transmission in 2dB steps at column 10, line 10-11. It would have been obvious to one skilled in the art at the time of the invention to use 2dB steps to adjust the power level, and to have a 30dB range for the transmission. The motivation would be to have fine control over the power level.

7. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Sawahashi. The methods of claims 1 and 2 are disclosed in Chang. Claim 13 further discloses a short observation window length of 35 packets, a long observation window length of 135 packets, a first threshold of 1 packet error, and a second threshold of 2 packet errors, which is missing from Chang. Claim 14 discloses a third threshold of 3 packet errors, which is also missing from Chang. However, there is no basis given in the specification for the choice of these numbers. It is generally considered to be within the ordinary skill in the art to adjust, vary, select of optimize the numerical parameters or values of any system absent a showing of criticality in a

particular recited value. The burden of showing criticality is on Applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937), Marconi Wireless Telegraph Co. v. US, 320 U.S.1, 57 USPQ 471 (1943). It would have been obvious to one skilled in the art at the time of the invention to experiment with different values.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Sawahashi in further view of Honkanen (6760317). The method of claim 1 is disclosed in Chang. Claim 15 further discloses the wireless transmission comprising a Bluetooth network, which is missing from Chang. However, Honkanen discloses monitoring error rates in a Bluetooth network at column 1, lines 8-12, and column 6, lines 39-43. It would have been obvious to one skilled in the art at the time of the invention to use the claimed method of power control on a Bluetooth data link. The motivation would be to be able to control power based on error rates in a Bluetooth network.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang in view of Sawahashi in further view of Batcher (6775764). Claim 16 is disclosed in Chang. Claim 23 further discloses a plurality of registers to programmably store the first threshold and the second threshold, and to provide the first threshold and the second threshold to the comparator, which is missing from Chang. However, using registers to store values is disclosed in Batcher, column 7, lines 12-13. It would have been obvious to one skilled in the art at the time of the invention to use registers to store the threshold values. The motivation would be to have a programmable method of storing the threshold values.

Allowable Subject Matter

10. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claim 26 is allowed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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